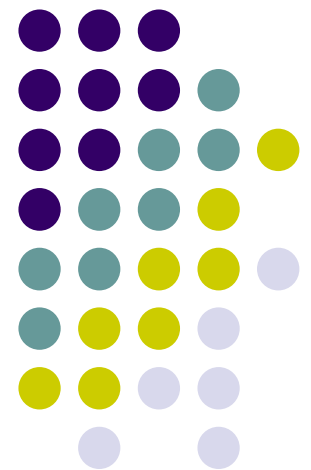# Advanced Computer Graphics
CS 525M: Understanding Mobile Web and Mobile Search Use in Today's Dynamic Mobile Landscape
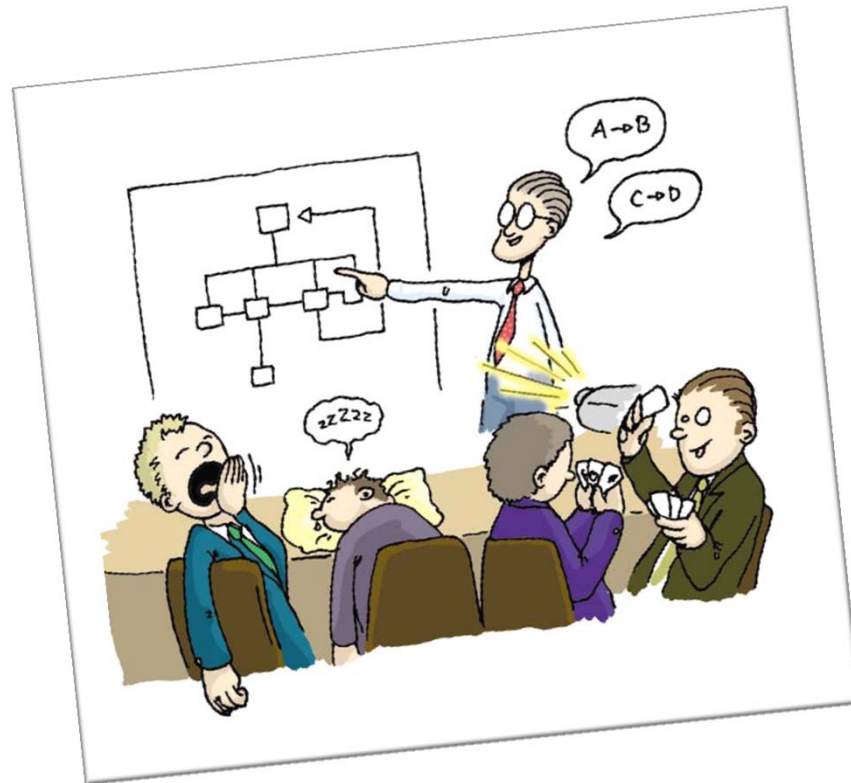
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OUTLINE

- Introduction
- Motivation
- Goals
- Related Works
- Contributions
- Methodology
- Results
- Conclusions
- Limitations and Future Works

Introduction

- *Mobile phones are use to access the Internet while on-the-move .*

Motivation

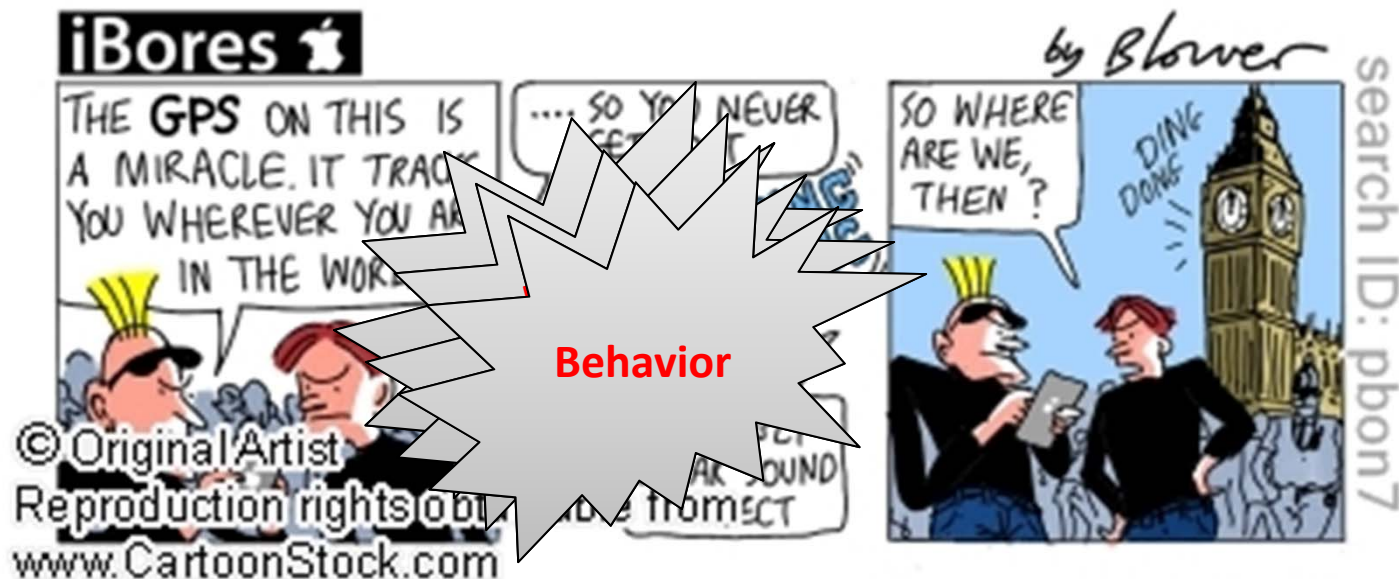- *Users are accessing the mobile Web in non-mobile settings.*

Goals

- Explore and compare mobile Web behavior.
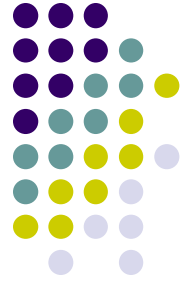
- Shed new light on mobile search behavior.

Related Work

1. Understanding mobile information needs.

2. Understanding Mobile Web Usage.

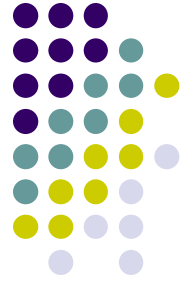3. Analyzing real mobile Web usage patterns.

Contributions

- Validate previous results.

- Reveal evolving mobile Web behaviors.

- Explore in depth the motivations, intent and impact of context surrounding mobile search.

Methodology

- Online diary study with follow-up interviews.

- Used an online diary tool.

- 18 participants over a 4-week period.

- Users shared details of their mobile Web access sessions.

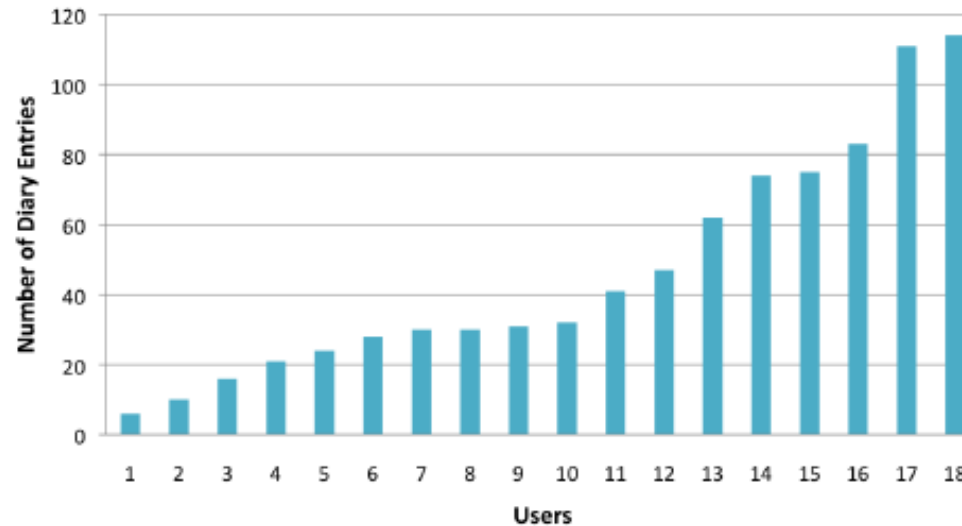- Focus on active mobile Internet users.
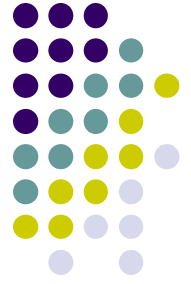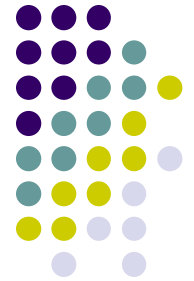
RESULTS
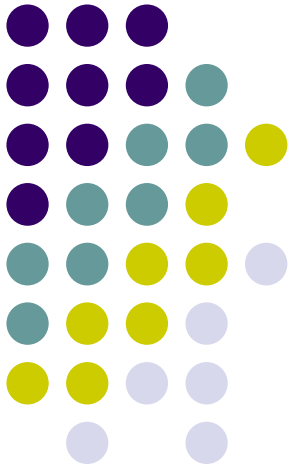
Results: Basic usage

Figure 1. The distribution of number of diary entries per user (ordered by least to most frequent usage).

- 835 diary entries. Avg = 46.4 per user (min=6, max=114, standard deviation= 32.8).

- 54% of the diary entries were replicated (16 out of 18 users).

- 11.7% were generated from a mobile handset (6 users).

Results: Mobile web tools

Tool	% Diary Entries
Maps	5.1
Mobile Search	10.0
Browsing	14.9
Email	18.8
Other Tools/Apps	24.0
Social Tools/Apps	27.2

Should be higher
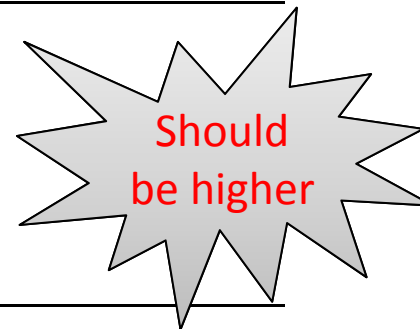
- 6 tools and respective diary entries per tool.
- Noticeable *social tools*, such as Facebook and Twitter, had 27.2%

Results: The impact of context

Location	% Diary Entries
Traveling Abroad	0.5
Outdoors	7.2
Indoors	11.4
Commuting/in transit	9.6
At work/college	21.8
At home	49.6

- In contrast with previous works (31%), 70% of diary entries were recorded in familiar or fairly stationary contexts.

- Only 17% were mobile specific.

- Mobiles *always-on* culture influence Web usage.

Results: Social Context

Social Context	% Diary Entries
Other	0.6
With Strangers	1.9
With Friends	4.8
With Colleagues	17.5
With Family	18.0
With Partner	26.0
Alone	31.3

- Who was with the user at the moment of Mobile Web usage?
- More than 65% not alone.
- 50% with someone close.

Results: Temporal Context

| Location	% Urgent Diary Entries
Indoors	31.6
Outdoors	46.7
Commuting/in transit	40.0
At work/college	29.1
At home	25.6

- 30% of diary entries were flagged as urgent/important.
- The importance of mobile access increased when in mobile settings such as outdoors.
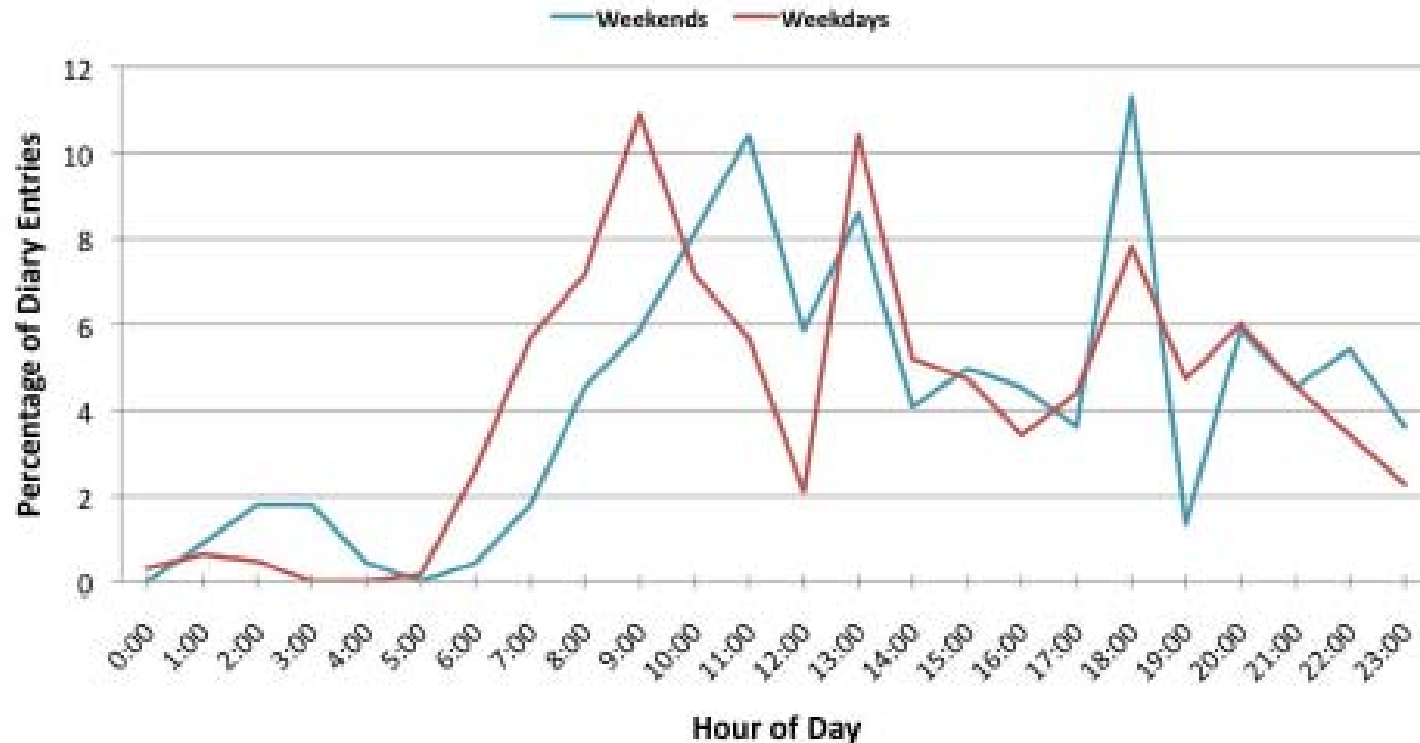- For mobile searches, importance/urgency grows.

Results: Motivations

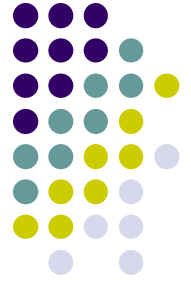| Motivation	# Diary Entries	% Diary Entries
Awareness	401	48
Time management	205	24.6
Curiosity	40	4.8
Diversion	106	12.7
Social Connection	80	9.6
Social Avoidance	3	0.4
Total	835	100%

- *Awareness* is the key motivating factor for mobile Web use.
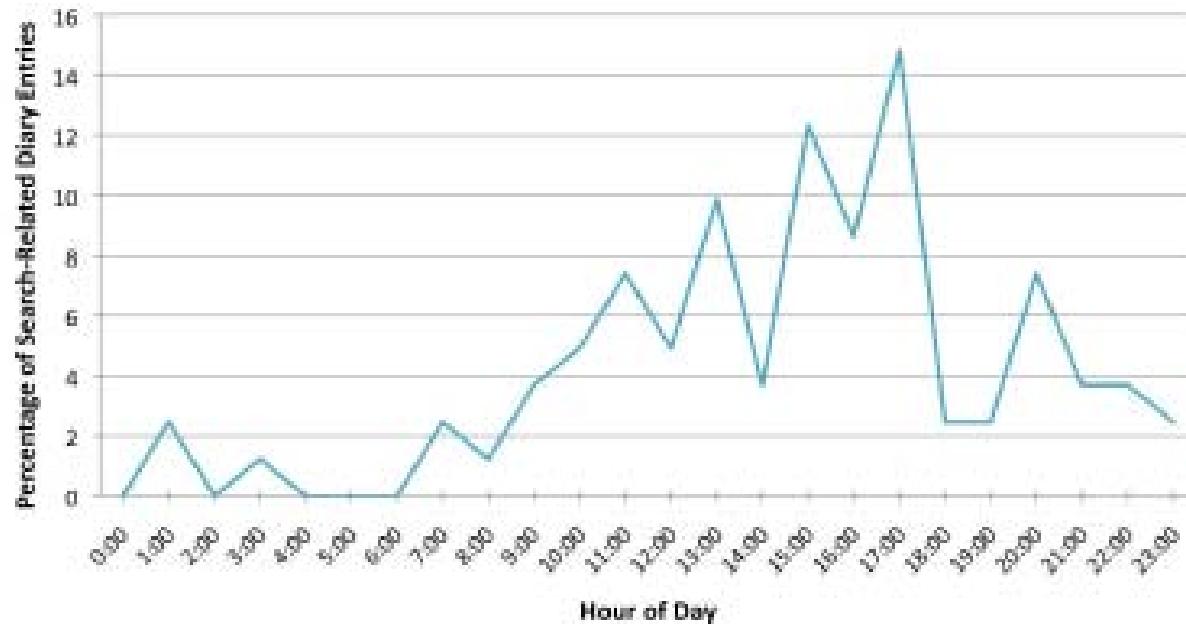- *Social Avoidance* ???
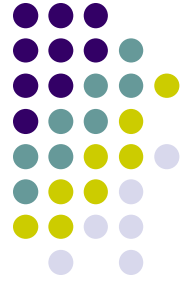
Results: Temporal Patterns

- There are peaks in the mornings, lunch and evening times.
- "*convenience factor*"

Results: Mobile search

- User contexts such as location play a key role in mobile search behavior.
- *Social factor???*

Conclusions

- Explored and compared Web behavior in 2011 with previous studies.

- Determined user preference for native mobile applications as opposed to general Web browsing.

- Stationary mobile web access is increasing.

- Mobile usage is greatly influenced by contexts such as location, time, activity and social interactions.
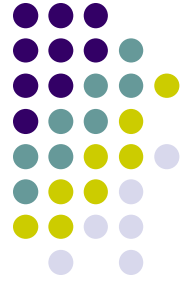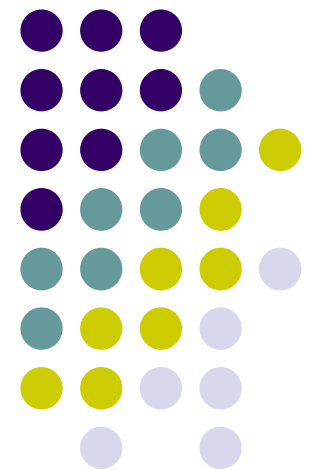
Limitations and Future work

- An automated tool that logs user mobile usage and behavior.

- A study performed on a longer period of time and with more users.

- An updated study that contrast the impact of apps usage, and Android vs iPhone.

- Improve and adjust mobile search platforms to users needs.

Thanks!

Questions?

References

[1] Karen Church and Nuria Oliver. 2011. *Understanding mobile web and mobile search use in today's dynamic mobile landscape*. In Proceedings of the 13th International Conference on Human Computer Interaction with Mobile Devices and Services (MobileHCI '11). ACM, New York, NY, USA, 67-76.

[2] Sohn, T., Li, K. A., Griswold, W. G., and Hollan, J. D. *A diary study of mobile information needs.* In Proceedings of CHI'08, ACM (2008).

[3] Taylor, C. A., Anicello, O., Somohano, S., Samuels, N., Whitaker, L., and Ramey, J. A. *A framework for understanding mobile internet motivations and behaviors.* In Proceedings of CHI'08 extended abstracts, ACM (2008).

[4] Taylor, C. A., Samuels, N., and Ramey, J. A. *Always on: A framework for understanding personal mobile web motivations, behaviors, and contexts of use.* International Journal of Mobile Human Computer Interaction 1, 4 (2009).